



LIFE14 NAT/IT/000484

LIFE UNDER GRIFFON WINGS
 Implementation of best practices
 to rescue Griffon vultures in Sardinia

With the contribution of the LIFE financial instrument of the European Community

AFTER LIFE CONSERVATION PLAN





LIFE14 NAT/IT000484 Life Under Griffon Wings

Duration: 5 years (1 of September 2015 - 31 of August 2020)

Budget: 1.730.385,00 euros.

Life Programme Contribution: 1.039.985,00 euros.

Project Area:

- 1) SCI ITB011155 Lago di Baratz - Porto Ferro
- 2) SCI ITB010042 Capo Caccia (Isole Foradada e Piana) e Punta Giglio
- 3) SPA ITB013044 Capo Caccia
- 4) SCI SCI ITB020041 Entroterra e zona costiera tra Bosa, Capo Marrargiu e Porto Tangone
- 5) SCI ITB020040 Valle del Temo
- 6) SPA ITB023037 Costa e Entroterra di Bosa, Suni e Montresta
- 7) SPA ITB023050 Piana di Semestene, Bonorva, Macomer e Bortigali
- 8) SCI ITB211101 Altopiano di Campeda



Coordinating Beneficiary: Università degli Studi di Sassari (UNISS)

Associated Beneficiaries: Agenzia Regionale Forestas, Corpo Forestale e di Vigilanza Ambientale (CFVA), Comune di Bosa

In collaboration with: Assessorati regionali alla Difesa dell'Ambiente e alla Sanità, Vulture Conservation Foundation (VCF), Parco naturale regionale di Porto Conte, Istituto Zooprofilattico Sperimentale della Sardegna, Servizi veterinari delle ASL di Sassari, Oristano e Nuoro.

Project team

Andrea Rotta (Project Manager, UNISS), Fiammetta Berlinguer (Scientific Responsible, UNISS), Pietro Masala (Communication Manager, UNISS), Dionigi Secci (Forestas), Marco Muzzeddu (Forestas), Maria Piera Giannasi (CFVA), Alfonso Campus (Comune di Bosa 2015-19), Piera Addis (Comune di Bosa 2019-2020), Giampiero Diligu (Comune di Bosa).

Scientific Committee

Salvatore Naitana (President, UNISS), Giovanni Leoni (Secretary, UNISS), Antonio Casula (Forestas 2015-2019), Marco Muzzeddu, (Forestas), Maria Piera Giannasi (CFVA), Maria Antonietta Sanna (Assessorato regionale Sanità), Davide Brugnone (Assessorato regionale Ambiente), Alessandro Andreotti (ISPRA), Mauro Aresu (NGO), Alfonso Campus (NGO), Francesco Guillot (NGO), Jovan Andevsky (VCF), Fulvio Genero (VCF).



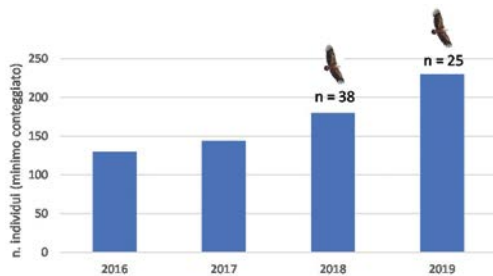
PROJECT

The objective of LIFE UNDER GRIFFON WINGS was to increase the conservation status of the Griffon Vulture population in Sardinia, rescuing the population from a critical demographic situation and mitigating the main threats limiting population viability. To achieve this main objective we:

- Mitigated food shortage and increased the carrying capacity of the habitat by creating a network of feeding stations, which will guarantee the availability of trophic resources for the Griffon vultures and the absence of veterinary drug residues harmful for vultures in the carcasses provisioned;
- mitigated the risk of poisoning events by creating an anti-poison dog unit and developing a dissemination strategy to raise awareness on the threat caused by the illegal use of poisoned baits;
- improved the viability of the population through a repopulation programme;
- Equipped the Wildlife Rescue Centre (WRC) of Bonassai with the necessary aviaries for the care and rehabilitation of large vultures;
- mitigated the anthropic disturbance in the reproductive sites.

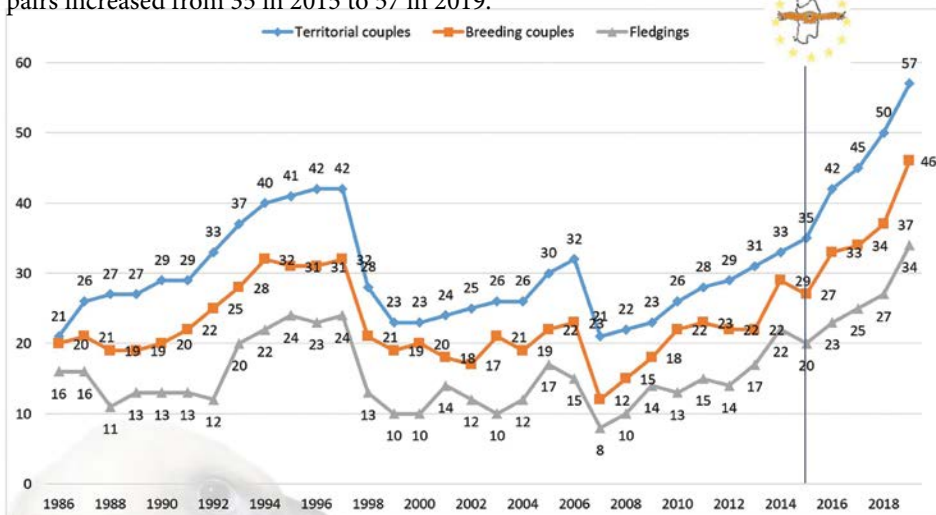
RESULTS

Thanks to the above-mentioned conservation actions, population size in 2019 reached a minimum of 230 individuals and a maximum estimated in 250 individuals. (population estimated at project start: 100-120 individuals).



Consistence (minimum counted) of the Griffon Vulture in Sardinia during the implementation of the LIFE Under Griffon Wings project (2016-2019). The Griffon Wings templates indicate the number of Griffon vultures released during the year as part of the restocking programme.

The increase in population size was accompanied by an increase in productivity and reproductive success. The number of territorial pairs increased from 35 in 2015 to 57 in 2019.



Productivity: 0.6 ± 0.02

Reproductive success: 0.73 ± 0.74
Year 2019



ACTIONS AFTER LIFE

THREAT

FOOD
SHORTAGE

SOLUTION

FEEDING
STATIONS



To deal with this threat during the course of the project, we activated 34 farm feeding stations and 2 centralized feeding stations.

FARM FEEDING STATIONS

The farm feed stations will continue to be provisioned to ensure food availability for Griffon vultures. As specified in the Farm Feeding Stations Business Plan*, the economic sustainability of this action is guaranteed by the intrinsic economic values of their creation compared to the costs related to other methods of carcass disposal.

The running costs of the farm feeding stations amount to the cost of replacing the battery of the electric fence of the feeding station (50,00 euro every two years) and to the cost of the human resources needed for the carcass transport operations (estimated at 60,00 euro per year).

Data on the carcasses provisioned will be monitored regularly in order to assess whether the kg of biomass supplied is sufficient or meet the nutritional needs of the Griffon Vulture population. In case of insufficient provisioning, we will increase the provisioning of the centralized feeding station managed by Forestas.

The staff needed to ensure this action will be provided by the University of Sassari and the time needed has been estimated at 1 hour of work every fortnight, equal 915 euros per year. These costs will be covered by the University of Sassari. Furthermore, in order to ensure that the expansion of the farm feeding station's network progressively follows the increase in the population size and in its core area, the University of Sassari will continue to monitor the movement of griffon vultures through the spatial data provided by the GPS/GSM transmitters displayed in 24 vultures within the restocking action.

This activity will be ensured as long as the transmitters continue to send their data, i.e. for about 3 years after the end of the project. Personnel costs will be covered by the University of Sassari and the time needed has been estimated at 1 hour of work every fortnight, equal to 915,00 euro per year.

* <http://www.lifeundergriffonwings.eu/export/sites/default/.galleries/doc-notizie/Business-Plan-Carnai-Aziendali-per-sito-web.pdf>



CENTRALIZED FEEDING STATIONS

Two feeding stations managed by the Fo.Re.S.T.A.S. Agency have been activated in Porto Conte and Monte Minerva to guarantee the food supply of Griffon vultures.

FoReSTAS will continue provisioning the two feeding stations in order to guarantee the availability of trophic resources, especially in case of temporary insufficient provisioning of the farm feeding stations.

It has been estimated that at the end of the project, the centralized feeding stations will have to guarantee approximately 30% of vulture's food requirements, equal to 13,000 kg per year.

Costs

The carcasses for the provisioning of the feeding stations will be provided free of charge by both private and public livestock farms already enrolled during the project.

Fo.Re.S.T.A.S has the necessary personnel and vehicles for the management of the centralized feeding stations. At the end of the project, the running costs will include the gasoline costs necessary for the collection and transport of the carcasses and the costs of disposal of the carcass residues. These activities will be incorporated into the normal activities of Fo.Re.S.T.A.S. The costs are estimated at a total of €6 970,00 per year, equivalent to €5 720,00 staff costs (52 working days at a daily rate of €110,00) and to the cost of waste disposal estimated at €1 250,00 per year. These costs will be covered by Forestas.

AFTER-LIFE COSTS TO MANAGE THE FEEDING STATION NETWORK

Activities	Motivation	Annual costs	Cost coverage
Provisioning of the farm feeding stations	Ensuring food availability to the Griffon vulture population	€ 170, 00 every two years, on average € 85,00 per year	To be covered by livestock farmers
Quantification of the kg of biomass supplied in the farm feeding stations	Activate the provisioning of the centralized feeding managed by Forestas in case of insufficient supply of the farm feeding stations	€ 915,00	To be covered by the University - working hours of the staff (24 hours per year)
Analysis of the spatial data provided by the GPS/GSM transmitters	Ensuring that the expansion of the farm feeding stations network progressively follows the expansion of the Griffon Vulture core area	€ 915,00	To be covered by the University - working hours of staff (24 hours per year)
Management and provisioning of the centralized feeding stations	Ensuring food availability to the Griffon Vulture population	€ 6.970,00	To be covered by Forestas - working hours of staff and own resources
TOTAL		€ 8.885,00	



THREAT

POISONING

SOLUTION

ANTI-POISON
DOG UNIT



In order to mitigate the risk of poisoning, considered the main threat to vulture conservation, an Anti-poison Dog Unit (NCA) has been established to prevent and suppress the illegal use of poison to kill animals.

The Unit is composed of

- rangers of the **Forest and Environmental Surveillance Corps** of the Districts of Sassari and Oristano;
- 4 dogs trained by the **Department of Veterinary Medicine of the University of Sassari**;
- 1 dog trainer of the Department of Veterinary Medicine of the University of Sassari;
- 3 dog handlers of the **Croce Gialla** of Ploaghe.

The activity of the Anti-Poison Dog Unit will continue after the end of the project.

The Department of Veterinary Medicine of the University of Sassari will continue maintaining and training the dogs of the Anti-Poison Dog Unit. In addition, it will take care of the training activities, promoting the opening of new areas of research in sports medicine, and behavioural studies, which will be funded as part of research programs.

The activities of the Anti-poison Dog Unit will be incorporated in the ordinary activities of the Corpo Forestale e di Vigilanza Ambientale della Regione Autonoma della Sardegna (RAS-CFVA).





Activities	Motivation	Annual costs	Cost coverage
Maintenance of the dogs	Ensuring the continuation of the activities of anti-poison dog unit	€ 500,00	To be covered by the University of Sassari - own resources
Training of the Anti-Poison Dog Unit	Ensuring the continuation of the activities of anti-poison dog unit	€ 3.600,00	To be covered by the University - working hours of the staff (10 hours per month for 12 months)
Preventive inspections in the field of the Anti-poison dog unit	Ensuring the continuation of the activities of anti-poison dog unit	€ 2.280,00	To be covered by RAS-CFVA - working hours of forest rangers (two rangers for 6 annual preventive inspections) and gasoline costs
On-call inspections of the Anti-poison dog unit	Ensuring the continuation of the activities of anti-poison dog unit	€ 2.280,00	To be covered by RAS-CFVA - working hours of forest rangers (two rangers for 6 annual preventive inspections) and gasoline costs
TOTAL		€ 8.660,00	

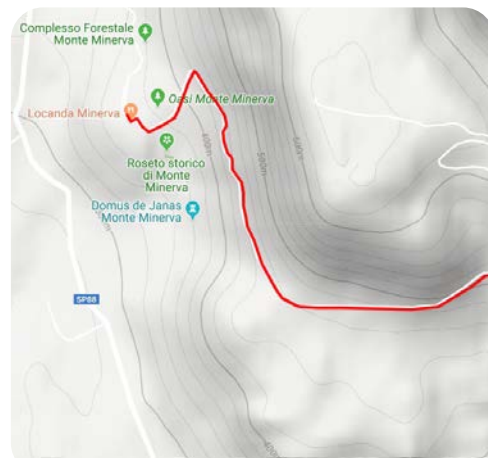


THREAT

HUMAN
DISTURBANCE IN
THE REPRODUCTIVE
SITES

SOLUTION

TRAILS IN SECURE
AREAS AND
INFOPOINTS



In order to mitigate the anthropic disturbance in the nesting sites, 4.5 km of **"PROTECTED" TRAILS** has been created around the centralized feeding stations of Porto Conte and Monte Minerva, culminating in two birdwatching stations at safe distance from the Griffon vultures' feeding area.

The hiking trails and birdwatching stations will be kept in operation after the end of the project. The maintenance of the trails will be carried on by the **Forestas Agency** as part of its institutional activities.

AFTER-LIFE COSTS TO ENSURE THE MITIGATION OF HUMAN DISTURBANCE IN THE REPRODUCTIVE SITES

Activities	Motivation	Annual costs	Cost coverage
Maintenance of the trails	Maintenance and cleaning of the protected trails around the centralized feeding stations in Porto Conte and Monte Minerva	€ 840,00	To be covered by Forestas - working hours of staff estimated at 27 hours per year
TOTALE		€ 840,00	





INFOPOINT

In order to make tourists and hikers aware of the Griffon Vultures and to provide them with information on how to visit the colonies without disturbing them, two Infopoints have been set up in the Natural Park of Prigionette in Porto Conte and in the Carmelo multifunctional center in Bosa.

The two structures, which in recent years have registered 51,555 visits, will continue their activities:

- the Infopoint at Porto Conte will be run at no cost by the Oasis manager as part of its institutional activities of welcoming and accompanying tourists;
- the Infopoint of Bosa will be taken care of, at no cost, by the staff of the Municipal Library which is located in the center of Carmel.

AFTER-LIFE COSTS TO ENSURE THE FUNCTIONING OF THE INFOPOINTS

Activities	Motivation	Annual costs	Cost coverage
Infopoint of Porto Conte	Opening of the info-points to the public	€ 0,00	To be covered by the personnel managing the Info-point
Infopoint of Bosa	Opening of the info-points to the public	€ 0,00	Personnel of the Municipality of Bosa
TOTAL		€ 0,00	





life 
SOTTO LE ALI DEL
GRIFONE
under griffon wings



LIFE14 NAT/IT/000484

LIFE UNDER GRIFFON WINGS
Implementation of best practices
to rescue Griffon vultures in Sardinia

With the contribution of the LIFE financial instrument of the European Community